CONTENTS OF VOLUME 11

JANUARY 1988 VOLUME 11 NUMBER 1

COOPERATIVE STUDIES

1 **Thrombolysis in Myocardial Infarction (TIMI) Trial—Phase I: Hemorrhagic Manifestations and Changes in Plasma Fibrinogen and the Fibrinolytic System in Patients Treated With Recombinant Tissue Plasminogen Activator and Streptokinase.** *A. Koneti Rao, Craig Pratt, Andrew Berke, Allan Jaffe, Ira Ockene, Theodore L. Schreiber, William R. Bell, Genell Knatterud, Thomas L. Robertson, Michael L. Terrin for the TIMI Investigators*

CLINICAL STUDIES

12 **Time Course of Left Ventricular Dilation After Myocardial Infarction: Influence of Infarct-Related Artery and Success of Coronary Thrombolysis.** *Sanford E. Warren, Henry D. Royal, John E. Markis, William Grossman, Raymond G. McKay*

20 **Importance of Clinical Measures of Ischemia in the Prognosis of Patients With Documented Coronary Artery Disease.** *Robert M. Califf, Daniel B. Mark, Frank E. Harrell, Jr., Mark A. Hlatky, Kerry L. Lee, Robert A. Rosati, David B. Pryor*

27 *Editorial Comment* **The Patient With Angina: The Importance of Careful Listening.** *Joseph S. Alpert*

28 **Noninvasive Identification of Severe Coronary Artery Disease Using Exercise Radionuclide Angiography.** *Raymond J. Gibbons, F. Earl Fyke III, Ian P. Clements, Andre C. Lapeyre III, Alan R. Zinsmeister, Manuel L. Brown*

35 **Prognostic Value of the Simplified Selvester QRS Score in Patients With Coronary Artery Disease.** *Edwin P. Bounous, Jr., Robert M. Califf, Frank E. Harrell, Jr., Tomoaki Hinohara, Daniel B. Mark, Raymond E. Ideker, Ronald H. Selvester, Galen S. Wagner*

42 **Long-Term Follow-Up of Idiopathic Mitral Valve Prolapse in 300 Patients: A Prospective Study.** *Donald R. Düren, Anton E. Becker, Arend J. Dunning*

48 *Editorial Comment* **Prolapse Paranoia.** *Kenneth M. Kessler*

50 **Effects of Aging on Asynchronous Left Ventricular Regional Function and Global Ventricular Filling in Normal Human Subjects.** *Robert O. Bonow, Dino F. Vitale, Stephen L. Bacharach, Barry J. Maron, Michael V. Green*

METHODS

59 **Contrast Echocardiography During Coronary Arteriography in Humans: Perfusion and Anatomic Studies.** *Steven B. Feinstein, Roberto M. Lang, Candace Dick, Alex Neumann, Jafar Al-Sadir, K.G. Chua, John Carroll, Ted Feldman, Kenneth M. Borow*

66 **Noninvasive Evaluation of Aortic Stenosis Severity Utilizing Doppler Ultrasound and Electrical Bioimpedance.** *Vasu D. Goli, Steve M. Teague, Rajesh Prasad, John Harvey, Wyatt F. Voyles, Edwin G. Olson, Eliot Schechter, Udho Thadani*

72 **Densitometric Regional Ejection Fraction: A New Three-Dimensional Index of Regional Left Ventricular Function—Comparison With Geometric Methods.** *Francois P. Chappuis, Thomas F. Widmann, Pascal Nicod, Kirk L. Peterson*

83 **Diastolic Mitral and Tricuspid Regurgitation by Doppler Echocardiography in Patients With Atrioventricular Block: New Insight Into the Mechanism of Atrioventricular Valve Closure.** *Ingela Schnittger, Christopher Appleton, Liv K. Hatle, Richard L. Popp*

89 **Cardiac Evaluation of Women Distance Runners by Echocardiographic Color Doppler Flow Mapping.** *Scott J. Pollak, Scott A. McMillan, William D. Knopf, Roseanne Wharff, Ajit P. Yoganathan, Joel M. Felner*

CARDIAC PACING

94 **Physiologic Correlates of the Heart Rate Response to Upright Isotonic Exercise: Relevance to Rate-Responsive Pacemakers.** *Patricia A. McElroy, Joseph S. Janicki, Karl T. Weber*

ELECTROPHYSIOLOGIC STUDIES

101 **Quantitation of Day to Day Variability in Mode of Induction of Ventricular Tachyarrhythmias by Programmed Stimulation.** *Mark J. Cooper, Lesley J. Hunt, Kathy J. Palmer, A. Robert Denniss, David A. Richards, John B. Uther, David L. Ross*

109 **The Region of Slow Conduction in Sustained Ventricular Tachycardia: Direct Endocardial Recordings and Functional Characterization in Humans.** *G. Neal Kay, Andrew E. Epstein, Vance J. Plumb*

117 **Amiodarone Therapy: Role of Early and Late Electrophysiologic Studies.** *Arnold J. Greenspon, Kent J. Volosin, Richard M. Greenberg, Lynn Jefferies, Heschi H. Rotmensch*

REPORTS ON THERAPY

124 **Tocainide for Drug-Resistant Sustained Ventricular Tachyarrhythmias.** *Gur C. Adhar, Charles D. Swerdlow, Barbara L. Lance, Deborah Clay, Gust H. Bardy, H. Leon Greene*

PEDIATRIC CARDIOLOGY

133 **Balloon Dilation of Unoperated Coarctation of the Aorta: Short- and Intermediate-Term Results.** *W. Robert Morrow, G. Wesley Vick III, Michael R. Nihill, Roxann Rokey, Donald L. Johnston, Thomas D. Hedrick, Charles E. Mullins*

139 **Dilated Cardiomyopathy in Infants and Children.** *Michael L. Griffin, Antonio Hernandez, Thomas C. Martin, David Goldring, R. Morton Bolman, Thomas L. Spray, Arnold W. Strauss*

145 *Editorial Comment* **Dilated Cardiomyopathy in Children.** *Charles P. Taliercio*

147 **Arrhythmia and Prognosis in Infants, Children and Adolescents With Hypertrophic Cardiomyopathy.** *William J. McKenna, Rodney C.G. Franklin, Petros Nihoyannopoulos, Killian C. Robinson, John E. Deanfield, with the technical assistance of Shaughan Dickie, Shirley J. Krikler*

154 **Cineangiographic Spectrum of Ebstein's Malformation: Its Relevance to Clinical Presentation and Outcome.** *Maurice P. Leung, Edward J. Baker, Robert H. Anderson, James R. Zuberbuhler*

162 **Conduction Disturbances After Correction of Tetralogy of Fallot: Are Electrophysiologic Studies of Prognostic Value?** *Beat Friedli, Marc Bolens, Mohsen Taktak*

166 **Evaluation of Pulmonary Blood Supply by Nuclear Magnetic Resonance Imaging in Patients With Pulmonary Atresia.** *Barbara A. Kersting-Sommerhoff, Udo P. Sechtem, Charles B. Higgins*

172 **A Reversible Pulmonary Artery Band: Preliminary Experience.** *Albert P. Rocchini, Steven R. Gundry, Robert H. Beekman, Kim P. Gallagher, Kathleen Heidelberger, Edward Bove, Douglas M. Behrendt, Robert C. Dysko, Karen Rosen*

EXPERIMENTAL STUDIES

177 **Disproportionate Epicardial Dilation After Transmural Infarction of the Canine Left Ventricle: Acute and Chronic Differences.** *David A. Kass, W. Lowell Maughan, Allen Ciuffo, Willard Graves, Bernadine Healy, Myron L. Weisfeldt*

186 *Editorial Comment* **Disproportionate Dilation After Transmural Infarction—Reflections on Its Meaning.** *Richard O. Russell, Jr.*

187 **Endothelium Determines Flow-Dependent Dilation of the Epicardial Coronary Artery in Dogs.** *Takeshi Inoue, Hitonobu Tomoike, Katashi Hisano, Motoomi Nakamura*

192 **Acute Reduction in Functional Infarct Expansion With Late Coronary Reperfusion: Assessment With Quantitative Two-Dimensional Echocardiography.** *Thomas Force, Andrew Kemper, Marcia Leavitt, Alfred F. Parisi*

201 **Sensitivity of Isovolumic Relaxation to Hypothermia During Myocardial Infarction.** *Michael R. Courtois, Peter B. Kurnik, Philip A. Ludbrook*

SPECIAL SECTIONS

207 **ACC News William Likoff: In Memoriam.** *Bernard Segal*

209 **Letters to the Editor**

FEBRUARY 1988 VOLUME 11 NUMBER 2

COOPERATIVE STUDIES

211 **In-Hospital Cardiac Mortality After Acute Closure After Coronary Angioplasty: Analysis of Risk Factors From 8,207 Procedures.** *Stephen G. Ellis, Gary S. Roubin, Spencer B. King III, John S. Douglas, Jr., Richard E. Shaw, Simon H. Stertzer, Richard K. Myler*

CLINICAL STUDIES

217 **Objective Assessment of Coronary Angioplasty for Multivessel Disease: Results of Exercise Stress Testing.** *Edward S. Thomas, Albert S. Most, David O. Williams*

223 **Acute Myocardial Infarction Associated With Single Vessel Coronary Artery Disease: An Analysis of Clinical Outcome and the Prognostic Importance of Vessel Patency and Residual Ischemic Myocardium.** *William W. Wilson, Robert S. Gibson, Thomas W. Nygaard, George B. Craddock, Jr., Denny D. Watson, Richard S. Crampton, George A. Beller*

235 *Editorial Comment* **Clinical Options in Patients With Single Vessel Coronary Artery Disease and Acute Myocardial Infarction.** *Jack Ferlinz*

237 **Comparison of Predictions Based on Observational Data With the Results of Randomized Controlled Clinical Trials of Coronary Artery Bypass Surgery.** *Mark A. Hlatky, Robert M. Califf, Frank E. Harrell, Jr., Kerry L. Lee, Daniel B. Mark, David B. Pryor*

246 **Postmyocardial Infarction Pain and Infarct Extension in the Coronary Care Unit: Role of Two-Dimensional Echocardiography.** *Jonathan L. Isaacsohn, Mark G. Earle, Andrew J. Kemper, Alfred F. Parisi*

252 **Mitral Balloon Valvuloplasty for Mitral Restenosis After Surgical Commissurotomy.** *Donald E. Rediker, Peter C. Block, Vivian M. Abascal, Igor F. Palacios*

257 **Mitral Regurgitation After Percutaneous Balloon Mitral Valvuloplasty in Adults: Evaluation by Pulsed Doppler Echocardiography.** *Vivian M. Abascal, Gerard T. Wilkins, Christopher Y. Choong, Peter C. Block, Igor F. Palacios, Arthur E. Weyman*

264 **Early and Late Hemodynamic Evaluation After Cardiac Transplantation: A Study of 28 Cases.** *Thierry Corcos, Corrado Tamburino, Philippe Léger, Elisabeth Vaissier, Patrick Rossant, Marie-Francoise Mattei, Patrick Daudon, Iradj Gandjbakhch, Alain Pavie, Annik Cabrol, Christian Cabrol*

ELECTROPHYSIOLOGIC STUDIES

271 **Parasympathethic and Sympathetic Alterations of Mobitz Type II Heart Block.** *Michael L. Markel, William M. Miles, Douglas P. Zipes, Eric N. Prystowsky*

276 **Differences Between Patients With Ventricular Tachycardia and Ventricular Fibrillation as Assessed by Signal-Averaged Electrocardiogram, Radionuclide Ventriculography and Cardiac Mapping.** *A. Robert Denniss, David L. Ross, David A. Richards, Loraine K. Holley, Mark J. Cooper, David C. Johnson, John B. Uther*

284 **A Comparative Study of Frequency Domain and Time Domain Analysis of Signal-Averaged Electrocardiograms in Patients With Ventricular Tachycardia.** *Josef Machac, Anthony Weiss, Stephen L. Winters, Philip Barecca, J. Anthony Gomes*

MORPHOLOGIC STUDIES

297 **A Comparison of Morphologic and Angiographic Findings in Long-Term Internal Mammary Artery and Saphenous Vein Bypass Grafts.** *Marc E. Shelton, Mervyn B. Forman, Renu Virmani, Ashok Bajaj, William S. Stoney, James B. Atkinson*

REVIEWS

308 **Automatic Methods for Detection of Tachyarrhythmias by Antitachycardia Devices.** *Frank Pannizzo, Anthony D. Mercando, John D. Fisher, Seymour Furman*

METHODS

317 **Determination of Left-Sided Pressure Gradients by Utilizing Doppler Aortic and Mitral Regurgitant Signals: Validation by Simultaneous Dual Catheter and Doppler Studies.** *Rick A. Nishimura, A. Jamil Tajik*

322 **Determinants of the Relation Between Systolic Pressure and Duration of Isovolumic Relaxation in the Right Ventricle.** *Douglas Triffon, Bertron M. Groves, John T. Reeves, Roy V. Ditchey*

330 **Comparison of ST Segment Depression in Upright Treadmill and Supine Bicycle Exercise Testing.** *Jule N. Wetherbee, Virinderjit S. Bamrah, Michael J. Ptacin, John H. Kalbfleisch*

338 **Accuracy of Doppler Echocardiography in Quantification of Left to Right Shunts in Adult Patients With Atrial Septal Defect.** *Herbert Dittmann, Rainer Jacksch, Wolfram Voelker, Karl-Ruediger Karsch, Ludger Seipel*

343 **Doppler Echocardiographic Measurement of Mitral Flow Volume: Validation of a New Method in Adult Patients.** *Dominique de Zuttere, Thierry Touche, Georges Saumon, Alain Nitenberg, Richard Prasquier*

351 **Echocardiographic Measurement of Right Ventricular Wall Thickness in Hypertrophic Cardiomyopathy: Relation to Clinical and Prognostic Features.** *William J. McKenna, Angelika Kleinebenne, Petros Nihoyannopoulos, Rodney Foale*

REPORTS ON THERAPY

359 **Use of Procainamide With Rapid Atrial Pacing for Successful Conversion of Atrial Flutter to Sinus Rhythm.** *Brian Olshansky, Ken Okumura, Paul G. Hess, Richard W. Henthorn, Albert L. Waldo*

CARDIAC PACING

365 **Comparison of Defibrillation Efficacy in Humans Using a New Catheter and Superior Vena Cava Spring-Left Ventricular Patch Electrodes.** *Roger A. Winkle, Stanley M. Bach, Jr., R. Hardwin Mead, Vincent A. Gaudiani, Edward B. Stinson, Eric S. Fain, Paula Schmidt*

371 ***Editorial Comment*** **Transvenous Catheter Defibrillation for Prevention of Sudden Cardiac Death.** *M. Mirowski, Morton M. Mower*

PEDIATRIC CARDIOLOGY

373 **Are Routine Preoperative Cardiac Catheterization and Angiography Necessary Before Repair of Ostium Primum Atrial Septal Defect?** *Steven E. Lipshultz, Stephen P. Sanders, John E. Mayer, Steven D. Colan, James E. Lock*

379 **Ectopic Automatic Atrial Tachycardia in Children: Clinical Characteristics, Management and Follow-Up.** *Ashok V. Mehta, Guillermo R. Sanchez, Edmond J. Sacks, Alfonso Casta, Jeffrey M. Dunn, Richard M. Donner*

386 **Tetralogy of Fallot With Obstruction of the Ventricular Septal Defect: Spectrum of Echocardiographic Findings.** *Michael F. Flanagan, Ronald B. Foran, Richard Van Praagh, Richard Jonas, Stephen P. Sanders*

396 **Pulmonary Artery Origin of the Left Coronary Artery: Diagnosis by Two-Dimensional Echocardiography, Pulsed Doppler Ultrasound and Color Flow Mapping.** *Klaus Georg Schmidt, Michael Jeffrey Cooper, Norman Henry Silverman, Paul Stanger*

EXPERIMENTAL STUDIES

403 **Differential Effects of Procainamide, Lidocaine and Acetylstrophanthidin on Body Surface Potentials and Epicardial Conduction in Dogs With Chronic Myocardial Infarction.** *Cees D. J. de Langen, Robert F. Hanich, Eric L. Michelson, Alan H. Kadish, Joseph H. Levine, C. William Balke, Joseph F. Spear, E. Neil Moore*

414 **Effect of Transmural Versus Nontransmural Myocardial Infarction on Inducibility of Ventricular Arrhythmias During Sympathetic Stimulation in Dogs.** *John M. Herre, Lewis Wetstein, Yuh-Lin Lin, A. Scott Mills, Michael Dae, Marc D. Thames*

422 **Extracellular Potassium Dynamics in the Border Zone During Acute Myocardial Ischemia in a Canine Model.** *Daniel David, Eric L. Michelson, Masahito Naito, Leonard S. Dreifus, with the technical assistance of Mark Schaffenbrug, John Nielands*

431 **Effects of Clofilium on Ischemic Subendocardial Purkinje Fibers 1 Day Postinfarction.** *William B. Gough, Dayi Hu, Nabil El-Sherif*

BASIC CONCEPTS IN CARDIOLOGY

438 **Influence of Altered Inotropy and Lusitropy on Ventricular Pressure-Volume Loops.** *Arnold M. Katz*

EDITORIALS

446 **Recent Changes in Management of Acute Myocardial Infarction: Implications for Emergency Care Physicians.** *J. Ward Kennedy, James M. Atkins, Sidney Goldstein, Allan S. Jaffe, Costas T. Lambrew, Kevin M. McIntyre, Hiltrud S. Mueller, John A. Paraskos, W. Douglas Weaver*

SPECIAL SECTIONS

450 **Letters to the Editor**

452 **Books Received**

FEBRUARY 1988 VOLUME 11 NUMBER 2 (SUPPLEMENT A)

Abstracts of Papers to be Presented at the 37th Annual Scientific Session of the American College of Cardiology, Atlanta, Georgia, March 27–31, 1988

1A Abstracts

257A Acknowledgments

261A Author Index

273A Subject Index

MARCH 1988 VOLUME 11 NUMBER 3

COOPERATIVE STUDIES

453 Prognostic Significance of Location and Type of Myocardial Infarction: Independent Adverse Outcome Associated With Anterior Location. *Peter H. Stone, Daniel S. Raabe, Allan S. Jaffe, Nancy Gustafson, James E. Muller, Zoltan G. Turi, John D. Rutherford, W. Kenneth Poole, Eugene Passamani, James T. Willerson, Burton E. Sobel, Thomas Robertson, Eugene Braunwald, for the MILIS Group*

464 Late Clinical Outcome in Patients with Early Ventricular Fibrillation After Myocardial Infarction. *Pascal Nicod, Elizabeth Gilpin, Howard Dittrich, Michael Wright, Robert Engler, James Rittlemeyer, Hartmut Henning, John Ross, Jr.*

CLINICAL STUDIES

471 Myocardial Infarction and Normal Coronary Arteriography: A 10 Year Clinical and Risk Analysis of 74 Patients. *Russell Raymond, James Lynch, Donald Underwood, Judy Leatherman, Mehdi Razavi*

478 Coronary Flow and Resistance Reserve in Patients With Chronic Aortic Regurgitation, Angina Pectoris and Normal Coronary Arteries. *Alain Nitenberg, Jean-Marc Foult, Isabelle Antony, Francoise Blanchet, Mohamed Rahali*

487 Circulating Cardiac Myosin Light Chains in Patients With Angina at Rest: Identification of a High Risk Subgroup. *Hugo A. Katus, Klaus W. Diederich, Eike Hoberg, Wolfgang Kübler*

494 The Changing Profile of the Patient Undergoing Coronary Artery Bypass Surgery. *Keith S. Naunheim, Andrew C. Fiore, John J. Wadley, Lawrence R. McBride, Kirk R. Kanter, D. Glenn Pennington, Hendrick B. Barner, George C. Kaiser, Vallee L. Willman*

499 Postural Exercise Abnormalities in Symptomatic Patients With Mitral Valve Prolapse. *Thomas M. Bashore, Cindy L. Grines, David Utlak, Harisios Boudoulas, Charles F. Wooley*

508 Maximal Exercise Testing and Gas Exchange in Patients With Chronic Atrial Fibrillation. *J. Edwin Atwood, Jonathan Myers, Michael Sullivan, Susan Forbes, Robert Friis, William Pewen, Peter Callaham, Patrick Hall, Victor Froelicher*

ELECTROPHYSIOLOGIC STUDIES

515 Subthreshold Atrial Pacing in Patients With a Left-Sided Accessory Pathway: An Effective New Method for Terminating Reciprocating Tachycardia. *Eli S. Gang, Thomas Peter, Peter C. Nalos, Malte Meesmann, Hrayr S. Karagueuzian, William J. Mandel, Daniel S. Oseran, Mark R. Myers*

522 Resetting of Ventricular Tachycardia: Implications for Localizing the Area of Slow Conduction. *William G. Stevenson, James N. Weiss, Isaac Wiener, Koonlawee Nademanee, Daniel Wohlgelernter, Lawrence Yeatman, Martin Josephson, Thomas Klitzner*

530 Incidence of Reentry With an Excitable Gap in Ventricular Tachycardia: A Prospective Evaluation Utilizing Transient Entrainment. *G. Neal Kay, Andrew E. Epstein, Vance J. Plumb*

539 Effect of Right Ventricular Pacing on Ventricular Rhythm During Atrial Fibrillation. *Fred H. Wittkampf, Mike J. L. de Jongste, Henk I. Lie, Frits L. Meijler*

546 *Editorial Comment* "Atrial Paralysis": Does It Explain the Irregular Ventricular Rate During Atrial Fibrillation? *Leonard S. Dreifus, Todor Mazgalev*

METHODS

549 Regional Myocardial Nitrogen-13 Glutamate Uptake in Patients With Coronary Artery Disease: Inverse Post-Stress Relation to Thallium-201 Uptake in Ischemia. *Rainer Zimmermann, Harald Tillmanns, Wolfram H. Knapp, Frantisek Helus, Peter Georgi, Bernhard Rauch, Franz-Josef Neumann, Sven Girgensohn, Wolfgang Maier-Borst, Wolfgang Kübler*

557 Sonospirometry: A New Method for Noninvasive Estimation of Mean Right Atrial Pressure Based on Two-Dimensional Echographic Measurements of the Inferior Vena Cava During Measured Inspiration. *Jay S. Simonson, Nelson B. Schiller*

565 Echocardiographic Visualization of Coronary Artery Anatomy in the Adult. *Pamela S. Douglas, John Fiolkoski, Barbara Berko, Nathaniel Reichek*

572 **Doppler Echocardiography in Cardiac Tamponade: Exaggerated Respiratory Variation in Transvalvular Blood Flow Velocity Integrals.** *David E. Leeman, Marc J. Levine, Patricia C. Come*

579 **Observer Variability in the Quantitation of Doppler Color Flow Jet Areas for Mitral and Aortic Regurgitation.** *Mikel D. Smith, Paul A. Grayburn, Michael G. Spain, Anthony N. DeMaria, with the technical assistance of Oi Ling Kwan and Claudine Banks Moffett*

585 **Safety and Diagnostic Accuracy of Dipyridamole-Thallium Imaging in the Elderly.** *Jules Y. T. Lam, Bernard R. Chaitman, Mark Glaenzer, Sheila Byers, Jeannine Fite, Yogesh Shah, Henry Goodgold, Larry Samuels*

590 **Sequential Pulse Defibrillation in Humans: Orthogonal Sequential Pulse Defibrillation With Epicardial Electrodes.** *Douglas L. Jones, George J. Klein, Gerard M. Guiraudon, Arjun D. Sharma*

597 **A New Rhythm Library for Testing Automatic External Defibrillators: Performance of Three Devices.** *Richard O. Cummins, Kenneth R. Stults, Bruce Haggar, Richard E. Kerber, Sherrie Schaeffer, Donald D. Brown*

EXPERIMENTAL STUDIES

603 **Spontaneous and Electrically Induced Ventricular Arrhymias During Acute Ischemia Superimposed on 2 Week Old Canine Myocardial Infarction.** *Hasan Garan, Janet M. McComb, Jeremy N. Ruskin*

612 ***Editorial Comment*** **Initiation of Lethal Arrhythmias: Use of Experimental Methods to Study Clinical Observations.** *Robert J. Myerburg, Shinichi Kimura*

614 **Effect of Verapamil on Postischemic "Stunned" Myocardium: Importance of the Timing of Treatment.** *Karin Przyklenk, Robert A. Kloner*

624 **Effects of Atrial Natriuretic Peptide on Coronary Vascular Resistance in the Intact Awake Dog.** *David D. Laxson, Xue-Zheng Dai, Jeffrey S. Schwartz, Robert J. Bache*

630 **Functional Infarct Expansion, Left Ventricular Dilation and Isovolumic Relaxation Time After Coronary Occlusion: A Two-Dimensional Echocardiographic Study.** *Prabodh M. Mehta, Kevin J. Alker, Robert A. Kloner*

637 **Cellular Electrophysiologic Effects of Vertebrate Digitalis-Like Substances.** *Robert S. Kieval, Vincent P. Butler, Jr., Fadila Derguini, Reimar C. Bruening, Michael R. Rosen*

PEDIATRIC CARDIOLOGY

645 **Variable Arginine Vasopressin Levels in Neonatal Congestive Heart Failure.** *Julian M. Stewart, Guillermo A. Zeballos, Paul K. Woolf, Harry S. Dweck, Michael H. Gewitz*

651 **Comparison of the Cardiac Output and Stroke Volume Response to Upright Exercise in Children With Valvular and Subvalvular Aortic Stenosis.** *Stephen E. Cyran, Frederick W. James, Stephen Daniels, Wayne Mays, Rakesh Shukla, Samuel Kaplan*

659 **Noninvasive Doppler Color Flow Mapping for Detection of Anomalous Origin of the Left Coronary Artery From the Pulmonary Artery and for Evaluation of Surgical Repair.** *Richard E. Swensson, Azucena Murillo-Olivas, William Elias, Robert Bender, Pat O. Daily, David J. Sahn*

MORPHOLOGIC STUDIES

662 **Pathology of the Cardiac Conduction System in Myotonic Dystrophy: A Study of 12 Cases.** *Harold H. Nguyen, James T. Wolfe III, David R. Holmes, Jr., William D. Edwards*

SPECIAL SECTIONS

672 **Letters to the Editor**

676 **ACC News** **Newly Elected Members of the College**

APRIL 1988 VOLUME 11 NUMBER 4

COOPERATIVE STUDIES

681 **Coronary Patency After Intravenous Infusion of Recombinant Tissue-Type Plasminogen Activator in Acute Myocardial Infarction.** *Ronald W. Brower, Alfred E.R. Arnold, Jacobus Lubsen, Marc Verstraete, on behalf of the European Cooperative Study Group for Recombinant Tissue-Type Plasminogen Activator*

689 **Ventricular Function and Infarct Size: The Western Washington Intravenous Streptokinase in Myocardial Infarction Trial.** *James L. Ritchie, Manuel Cerqueira, Charles Maynard, Kathryn Davis, J. Ward Kennedy*

CLINICAL STUDIES

698 **Late Restenosis After Emergent Coronary Angioplasty For Acute Myocardial Infarction: Comparison With Elective Coronary Angioplasty.** *Charles A. Simonton, Daniel B. Mark, Tomoaki Hinohara, David S. Rendall, Harry R. Phillips, Robert H. Peter, Victor S. Behar, Yihong Kong, William G. O'Callaghan, Christopher O'Connor, Robert M. Califf, Richard S. Stack*

706 **Triple Vessel Coronary Artery Endarterectomy and Reconstruction: Results in 144 Patients.** *Jerold B. Brenowitz, Kenneth L. Kayser, W. Dudley Johnson*

712 ***Editorial Comment*** **Resurgence of Coronary Artery Endarterectomy.** *Floyd D. Loop*

714 **Repeat Coronary Angioplasty: Correlates of a Second Restenosis.** *Alexander J.R. Black, H. Vernon Anderson, Gary S. Roubin, Stephen W. Powelson, John S. Douglas, Spencer B. King, III*

719 **Correlation Between Beta-Endorphin Plasma Levels and Anginal Symptoms in Patients With Coronary Artery Disease.** *Colomba Falcone, Giuseppe Specchia, Renato Rondanelli, Luigina Guasti, Giovanna Corsico, Silvia Codega, Carlo Montemartini*

724 **Tuberculous Pericarditis: Ten Year Experience With a Prospective Protocol for Diagnosis and Treatment.** *J. Sagristà-Sauleda, G. Permanyer-Miralda, J. Soler-Soler*

METHODS

729 **Detection of Coronary Artery Reperfusion With Creatine Kinase-MB Determinations During Thrombolytic Therapy: Correlation With Acute Angiography.** *Harry D. Garabedian, Herman K. Gold, Tsunehiro Yasuda, Jennifer A. Johns, Dianne M. Finkelstein, Robert J. Gaivin, Christa Cobbaert, Robert C. Leinbach, Désiré Collen*

735 **Assessment of Myocardial Perfusion in Humans by Contrast Echocardiography. I. Evaluation of Regional Coronary Reserve by Peak Contrast Intensity.** *Jorge Cheirif, William A. Zoghbi, Albert E. Raizner, Steven T. Minor, William L. Winters, Jr., Milton S. Klein, Thomas L. De Bauche, John M. Lewis, Robert Roberts, Miguel A. Quinones*

744 **Effects of Changes in Coronary Stenosis on Left Ventricular Diastolic Filling Assessed With Pulsed Doppler Echocardiography.** *Tohru Masuyama, Kazuhisa Kodama, Satoshi Nakatani, Shinsuke Nanto, Akira Kitabatake, Takenobu Kamada*

752 **Doppler Echocardiographic Determination of the Pressure Gradient in Hypertrophic Cardiomyopathy.** *Zion Sasson, Paul G. Yock, Liv K. Hatle, Edwin L. Alderman, Richard L. Popp*

757 **Demonstration of Restrictive Ventricular Physiology by Doppler Echocardiography.** *Christopher P. Appleton, Liv K. Hatle, Richard L. Popp*

769 **Combined First Pass and Equilibrium Radionuclide Cardiographic Determination of Stroke Volume for Quantitation of Valvular Regurgitation.** *Henning Kelbæk, Jan Aldershvile, Jesper H. Svendsen, Kirsten Folke, Steen L. Nielsen, Ole Munck*

ELECTROPHYSIOLOGIC STUDIES

775 **Identification and Catheter Ablation of a Zone of Slow Conduction in the Reentrant Circuit of Ventricular Tachycardia in Humans.** *Fred Morady, Robert Frank, William H. Kou, Joelci L. Tonet, Steven D. Nelson, Semplice Kounde, Michael De Buitleir, Guy Fontaine*

783 **Endocardial Mapping of Ventricular Tachycardia in the Intact Human Ventricle: Evidence for Reentrant Mechanisms.** *Eugene Downar, Louise Harris, Lynda L. Mickleborough, Nisar Shaikh, Ian D. Parson*

MORPHOLOGIC STUDIES

792 **Prevalent Myocarditis at Necropsy in the Acquired Immunodeficiency Syndrome.** *David W. Anderson, Renu Virmani, Joseph M. Reilly, Timothy O'Leary, Robert E. Cunnion, Max Robinowitz, Abe M. Macher, Usha Punja, Siocgo T. Villaflor, Joseph E. Parrillo, William C. Roberts*

REPORTS ON HYPERTENSION

800 **Measurement of Left Atrial Systolic Time Intervals in Hypertensive Patients Using Doppler Echocardiography: Relation to Fourth Heart Sound and Left Ventricular Wall Thickness.** *Hitoshi Abe, Masatoshi Yokouchi, Fujio DeGuchi, Fumio Saitoh, Hiroki Yoshimi, Yoshio Arakaki, Takashi Natsume, Yuhei Kawano, Kaoru Yoshida, Morio Kuramochi, Keiichi Ito, Teruo Omae*

CARDIAC PACING

806 **Atrial Signal Variations and Pacemaker Malsensing During Exercise: A Study in the Time and Frequency Domain.** *Gerd Fröhlig, Holger Schwerdt, Hermann Schieffer, Ludwig Bette*

PEDIATRIC CARDIOLOGY

815 **Percutaneous Transluminal Balloon Valvuloplasty of Congenital Pulmonary Valve Stenosis, With a Special Report on Infants and Neonates.** *Christian Rey, Philippe Marache, Charles Francart, Claude Dupuis*

821 **Balloon Dilation of Critical Pulmonary Stenosis in the First Week of Life.** *Benjamin Zeevi, John F. Keane, Kenneth E. Fellows, James E. Lock*

825 **Determination of Pulmonary to Systemic Blood Flow Ratio in Children by a Simplified Doppler Echocardiographic Method.** *Jean-Louis Cloez, Klaus Georg Schmidt, Einat Birk, Norman Henry Silverman*

831 **Spectrum of Exercise Intolerance in 45 Patients With Ebstein's Anomaly and Observations on Exercise Tolerance in 11 Patients After Surgical Repair.** *David J. Driscoll, Carl D. Mottram, Gordon K. Danielson*

REPORTS ON THERAPY

837 **Regional Distribution of Cardiac Output at Rest and During Exercise in Patients With Exertional Angina Pectoris Before and After Nifedipine Therapy.** *Andrew Thomson, Peter J. Fletcher, Phillip J. Harris, Ben Freedman, David T. Kelly*

843 **Indecainide for Treatment of Ventricular Ectopic Depolarizations: Efficacy, Pharmacokinetics, Hemodynamic Effects and Safety.** *David M. Salerno, Jeananne Krejci, Gregory Granrud, Morrison Hodges*

EXPERIMENTAL STUDIES

851 **Quantitative Assessment of Left Ventricular Wall Motion by Two-Dimensional Echocardiography: Validation During Reversible Ischemia in the Conscious Dog.** *William A. Zoghbi, Martin L. Charlat, Roberto Bolli, Wei-Xi Zhu, Craig J. Hartley, Miguel A. Quinones*

861 **Modification of the Centerline Method for Assessment of Echocardiographic Wall Thickening and Motion: A Comparison With Areas of Risk.** *Mark J. McGillem, G.B. John Mancini, Scott F. DeBoe, Andrew J. Buda*

867 **Cocaine-Induced Supersensitivity and Arrhythmogenesis.** *Hiroshi Inoue, Douglas P. Zipes*

875 **Electrophysiologic Effects of a New Antiarrhythmic Agent, Recainam, on Isolated Canine and Rabbit Myocardial Fibers.** *Reiko Takikawa, Kaichiro Kamiya, Rinya Kato, Bramah N. Singh*

EDITORIALS

882 **Visual Estimates of Percent Diameter Coronary Stenosis: "A Battered Gold Standard"** *Melvin L. Marcus, David J. Skorton, Maryl R. Johnson, Steve M. Collins, David G. Harrison, Richard E. Kerber*

886 *Editorial Comment* **Percent Coronary Stenosis: Battered Gold Standard, Pernicious Relic or Clinical Practicality?** *K. Lance K. Lance Gould*

889 **Stimulation as a Key to Tachycardia Localization and Ablation** *John D. Fisher*

SPECIAL SECTIONS

894 **Letters to the Editor**

896 **Correction**

897 **ACC News 1988–1989 Board of Governors**

MAY 1988 VOLUME 11 NUMBER 5

COOPERATIVE STUDIES

899 **Emergency Coronary Artery Bypass Surgery Preserves Global and Regional Left Ventricular Function After Intravenous Tissue Plasminogen Activator Therapy for Acute Myocardial Infarction.** *Dean J. Kereiakes, Eric J. Topol, Barry S. George, Charles W. Abbottsmith, Richard S. Stack, Richard J. Candela, William W. O'Neill, Linda H. Martin, Robert M. Califf, and the TAMI Study Group*

908 **Prediction of Risk of Anterior Myocardial Infarction by Lesion Severity and Measurement Method of Stenoses in the Left Anterior Descending Coronary Distribution: A CASS Registry Study.** *Stephen Ellis, Edwin Alderman, Kevin Cain, Lloyd Fisher, William Sanders, Martial Bourassa, and the CASS Investigators*

CLINICAL STUDIES

917 **Analysis of Morbid Events and Risk Factors for Death After Cardiac Transplantation.** *James K. Kirklin, David C. Naftel, David C. McGiffin, Reba F. McVay, Eugene H. Blackstone, Robert B. Karp*

925 **Relations of Preoperative Hemodynamics and Coronary Blood Flow to Improved Left Ventricular Function After Valve Replacement for Aortic Regurgitation.** *Kanji Kawachi, Soichiro Kitamura, Choken Oyama, Hironori Kobayashi, Ryuichi Morita, Tsutomu Nishii, Yasunaru Kawashima*

930 ***Editorial Comment*** **Timing of Aortic Valve Replacement in Chronic Aortic Valve Regurgitation.** *Richard O. Russell, Jr.*

932 **Risk Factors and In-Hospital Course of First Episode of Myocardial Infarction or Acute Coronary Insufficiency in Women.** *Killian Robinson, Ronán M. Conroy, Risteárd Mulcahy, Noel Hickey*

937 **Early Changes of Right Heart Geometry After Pulmonary Thromboendarterectomy.** *Howard C. Dittrich, Pascal H. Nicod, Leon C. Chow, Francois P. Chappuis, Kenneth M. Moser, Kirk L. Peterson*

944 **Reflex Control of Coronary Vascular Tone by Cardiopulmonary Receptors in Humans.** *Bruno Trimarco, Carlo Vigorito, Alberto Cuocolo, Bruno Ricciardelli, Nicola De Luca, Massimo Volpe, Giuseppe Lembo, Mario Condorelli*

METHODS

953 **Doppler Echocardiographic Evaluation of the Effect of Atrial Pacing-Induced Ischemia on Left Ventricular Filling in Patients With Coronary Artery Disease.** *Sabino Iliceto, Antonio Amico, Vito Marangelli, Gaetano D'Ambrosio, Paolo Rizzon*

962 **Quantitative Thallium-201 Single Photon Emission Computed Tomography After Oral Dipyridamole for Assessing the Presence, Anatomic Location and Severity of Coronary Artery Disease.** *Salvador Borges-Neto, John J. Mahmarian, Avanindra Jain, Robert Roberts, Mario S. Verani*

970 **Clinical Significance of Perfusion Defects by Thallium-201 Single-Photon Emission Tomography Following Oral Dipyridamole Early After Coronary Angioplasty.** *Avanindra Jain, John J. Mahmarian, Salvador Borges-Neto, Donald L. Johnston, W. Richard Cashion, John M. Lewis, Albert E. Raizner, Mario S. Verani*

977 **Transluminal Intracoronary Reperfusion Catheter: A Device to Maintain Coronary Perfusion Between Failed Coronary Angioplasty and Emergency Coronary Bypass Surgery.** *Tomoaki Hinohara, John B. Simpson, Harry R. Phillips, Richard S. Stack*

983 **Detection of Pacing-Induced Myocardial Ischemia by Endocardial Electrograms Recorded During Cardiac Catheterization.** *Elizabeth G. Nabel, Thomas L. Shook, Michael Meyerovitz, Peter Ganz, Andrew P. Selwyn, Peter L. Friedman*

993 **Exercise Echocardiography: Detection of Coronary Artery Disease in Patients With Normal Left Ventricular Wall Motion at Rest.** *Thomas Ryan, Charles G. Vasey, Charles F. Presti, Jacqueline A. O'Donnell, Harvey Feigenbaum, William F. Armstrong*

1000 ***Editorial Comment*** **Exercise Echocardiography.** *Kent L. Richards*

1002 **Use of Exercise Doppler Echocardiography to Evaluate Cardiac Drugs: Effects of Propranolol and Verapamil on Aortic Blood Flow Velocity and Acceleration.** *Michael R. Harrison, Mikel D. Smith, Steven E. Nissen, Paul A. Grayburn, Anthony N. DeMaria*

1010 **Reconsideration of Echocardiographic Standards for Mitral Valve Prolapse: Lack of Association Between Leaflet Displacement Isolated to the Apical Four Chamber View and Independent Echocardiographic Evidence of Abnormality.** *Robert A. Levine, Evagelos Stathogiannis, John B. Newell, Pamela Harrigan, Arthur E. Weyman*

1020 **Cardiac Tamponade and Pericardial Effusion: Respiratory Variation in Transvalvular Flow Velocities Studied by Doppler Echocardiography.** *Christopher P. Appleton, Liv K. Hatle, Richard L. Popp*

1031 ***Editorial Comment*** **The Significance of Echocardiographic-Doppler Studies in Cardiac Tamponade.** *Noble O. Fowler*

ELECTROPHYSIOLOGIC STUDIES

1035 **"Nodoventricular" Accessory Pathway: Evidence for a Distinct Accessory Atrioventricular Pathway With Atrioventricular Node-Like Properties.** *George J. Klein, Gerard M. Guiraudon, Charles R. Kerr, Arjun D. Sharma, Raymond Yee, Tibor Szabo, John A. Yeung Lai Wah*

1041 **Comparison of Time Domain and Frequency Domain Variables From the Signal-Averaged Electrocardiogram: A Multivariable Analysis.** *Seth J. Worley, Daniel B. Mark, William M. Smith, Patrick Wolf, Robert M. Califf, Harold C. Strauss, Mary G. Manwaring, Raymond E. Ideker*

1052 **Modulation of an Idioventricular Rhythm by Vagal Tone.** *Menashe B. Waxman, Christina L. Cupps, Douglas A. Cameron*

PEDIATRIC CARDIOLOGY

1061 **Ventriculocoronary Connections in Hypoplastic Right Heart Syndrome: Autopsy Serial Section Study of Six Cases.** *William N. O'Connor, Benjamin J. Stahr, Carol M. Cottrill, Edward P. Todd, Jacqueline A. Noonan*

EXPERIMENTAL STUDIES

1073 **Rotational Endarterectomy in Normal Canine Coronary Arteries: Preliminary Report.** *D. Dennis Hansen, David C. Auth, Margaret Hall, James L. Ritchie*

1078 **Compromise of Beneficial Effects of Reperfusion on Myocardium Supplied by Vessels With Critical Residual Stenosis.** *Donald W. Myears, Ryuji Nohara, Dana R. Abendschein, Jeffrey E. Saffitz, Burton E. Sobel, Steven R. Bergmann*

1087 **Protective Effect of Pretreatment With the Calcium Antagonist Anipamil on the Ischemic-Reperfused Rat Myocardium: A Phosphorus-31 Nuclear Magnetic Resonance Study.** *J. Hans Kirkels, Tom J.C. Ruigrok, Cees J.A. Van Echteld, Frits L. Meijler*

1094 **Cellular Electrophysiologic Responses of Isolated Neonatal and Adult Cardiac Fibers to d-Sotalol.** *Steven M. Yabek, Rinya Kato, Nobuo Ikeda, Bramah N. Singh*

1100 **Effects of Distant Potentials on Unipolar Electrograms in an Animal Model Utilizing the Right Ventricular Isolation Procedure.** *Ralph J. Damiano, Jr., Susan M. Blanchard, Tetsuo Asano, James L. Cox, James E. Lowe*

REPORTS ON THERAPY

1111 **Surgical Treatment of Right Atrial Focal Tachycardia in Adults.** *A. Allen Seals, Gerald M. Lawrie, Sharon Magro, Huang-Ta Lin, Antonio Pacifico, Robert Roberts, Christopher R. C. Wyndham*

1118 **Selective Dopamine-1 Agonist Therapy in Severe Hypertension: Effects of Intravenous Fenoldopam.** *William B. White, Martha J. Radford, Francisco M. Gonzalez, Sherrolyn G. Weed, Ellen J. McCabe, Arnold M. Katz*

SPECIAL REPORTS

1124 **Appropriate Electrophysiologic Study and Treatment of Patients With the Wolff-Parkinson-White Syndrome.** *Albert L. Waldo (Chairman), Masood Akhtar, David G. Benditt, Pedro Brugada, A. John Camm, John J. Gallagher, Paul C. Gillette, George J. Klein, Samuel Levy, Melvin M. Scheinman, Hein J.J. Wellens, Douglas P. Zipes*

1130 **Outlet Strut Fracture of the Björk-Shiley 60° Convexo-Concave Valve: Current Information and Recommendations for Patient Care.** *Loren F. Hiratzka, Nicholas T. Kouchoukos, Gary L. Grunkemeier, Craig Miller, Hugh E. Scully, Andrew S. Wechsler*

1138 **Letters to the Editor**

JUNE 1988 VOLUME 11 NUMBER 6

COOPERATIVE STUDIES

1141 **Survival and Cardiac Event Rates in the First Year After Emergency Coronary Angioplasty for Acute Myocardial Infarction.** *Richard S. Stack, Robert M. Califf, Tomoaki Hinohara, Harry R. Phillips, David B. Pryor, Charles A. Simonton, Eric B. Carlson, Kenneth G. Morris, Victor S. Behar, Yihong Kong, Robert H. Peter, Mark A. Hlatky, Christopher M. O'Conner, Daniel B. Mark*

1150 ***Editorial Comment*** **The Long-Term Investment of Coronary Angioplasty for Acute Myocardial Infarction.** *Eric J. Topol*

1153 **Multicenter Reperfusion Trial of Intravenous Anisoylated Plasminogen Streptokinase Activator Complex (APSAC) in Acute Myocardial Infarction: Controlled Comparison With Intracoronary Streptokinase.** *Jeffrey L. Anderson, Robert L. Rothbard, Rosemary A. Hackworthy, Sherman G. Sorensen, Patricia G. Fitzpatrick, Charles F. Dahl, Arthur D. Hagan, Kevin F. Browne, Gary P. Symkoviak, Ronald L. Menlove, William H. Barry, Harry W. Eckerson, Victor J. Marder, for the APSAC Multicenter Investigators*

CLINICAL STUDIES

1164 **Prognostic Cardiac Catheterization Variables in Survivors of Acute Myocardial Infarction: A Five Year Prospective Study.** *Steven P. Schulman, Stephen C. Achuff, Lawrence S. C. Griffith, J. O'Neal Humphries, George J. Taylor, E. David Mellits, Marylu Kennedy, Rosemary Baumgartner, Myron L. Weisfeldt, Kenneth L. Baughman*

1173 **Coronary Angioplasty: A Therapeutic Option for Symptomatic Patients With Two and Three Vessel Coronary Disease.** *Ubeydullah Deligonul, Michel G. Vandormael, Morton J. Kern, Robert Zelman, Kathy Galan, Bernard R. Chaitman*

1180 ***Editorial Comment*** **Percutaneous Transluminal Coronary Angioplasty in Two and Three Vessel Coronary Disease: Information and Speculation.** *Patrick L. Whitlow*

1183 **Incomplete Revascularization in Multivessel Percutaneous Transluminal Coronary Angioplasty: The Role for Stress Thallium-201 Imaging.** *Warren M. Breisblatt, John V. Barnes, Frederick Weiland, Leo J. Spaccavento*

1191 **Responsiveness of Atrial Natriuretic Factor to Reduction in Right Atrial Pressure in Patients With Chronic Congestive Heart Failure.** *Mark A. Creager, Alan T. Hirsch, Elizabeth G. Nabel, Sally S. Cutler, Wilson S. Colucci, Victor J. Dzau*

1199 **Verapamil Impairs Secretion of Stimulated Atrial Natriuretic Factor in Humans.** *Mathias Claus Haufe, Rupert Gerzer, Jochen Weil, Johanna Elisabeth Ernst, Karl Theisen*

1204 **Left Atrial Spontaneous Echo Contrast in Mitral Valve Disease: An Indicator for Increased Thromboembolic Risk.** *Werner G. Daniel, Ulrich Nellessen, Eberhard Schröder, Barbara Nonnast-Daniel, Piotr Bednarski, Peter Nikutta, Paul R. Lichtlen*

METHODS

1213 **Combined Aortic and Mitral Balloon Valvuloplasty in Patients With Critical Aortic and Mitral Valve Stenosis: Results in Six**

Cases. *Aaron D. Berman, Joseph S. Weinstein, Robert D. Safian, Daniel J. Diver, William Grossman, Raymond G. McKay*

1219 **Doppler Echocardiographic Observations During Percutaneous Aortic Balloon Valvuloplasty.** *Rick A. Nishimura, David R. Holmes, Jr., Guy S. Reeder, A. Jamil Tajik, Liv K. Hatle*

1227 **Prediction of the Severity of Aortic Stenosis by Doppler Aortic Valve Area Determination: Prospective Doppler-Catheterization Correlation in 100 Patients.** *Jae K. Oh, Charles P. Taliercio, David R. Holmes, Jr., Guy S. Reeder, Kent R. Bailey, James B. Seward, A. Jamil Tajik*

1235 **Electrophysiologic Effects of Epinephrine in Humans.** *Fred Morady, Steven D. Nelson, William H. Kou, Richard Pratley, Stephen Schmaltz, Michael De Buitleir, Jeffrey B. Halter*

ELECTROPHYSIOLOGIC STUDIES

1245 **Transvenous Catheter Ablation of Extranodal Accessory Pathways.** *Michael A. Ruder, R. Hardwin Mead, Vincent Gaudiani, Wally S. Buch, Nellis A. Smith, Roger A. Winkle*

1254 **Efficacy of Cryosurgery Alone for Refractory Monomorphic Sustained Ventricular Tachycardia Due to Inferior Wall Infarction.** *Jose Caceres, Paul Werner, Mohammad Jazayeri, Masood Akhtar, Patrick Tchou*

1260 **Effect of Repetition of Extrastimuli on Sensitivity and Reproducibility of Mode of Induction of Ventricular Tachycardia by Programmed Stimulation.** *Mark J. Cooper, Lesley J. Hunt, David A. Richards, A. Robert Denniss, John B. Uther, David L. Ross*

CARDIAC PACING

1269 **Effect of Ventricular Function on the Exercise Hemodynamics of Variable Rate Pacing.** *Thomas A. Buckingham, Robert C. Woodruff, D. Glenn Pennington, Robert M. Redd, Denise L. Janosik, Arthur J. Labovitz, Roxanne Graves, Harold L. Kennedy*

1278 **The Automatic Implantable Cardioverter-Defibrillator: Efficacy, Complications and Survival in Patients With Malignant Ventricular Arrhythmias.** *Patricia A. Kelly, David S. Cannom, Hasan Garan, Gloria S. Mirabal, J. Warren Harthorne, Richard J. Hurvitz, Gus J. Vlahakes, Marshall L. Jacobs, Joseph P. Ilvento, Mortimer J. Buckley, Jeremy N. Ruskin*

1287 ***Editorial Comment*** **Lessons Learned from the Automatic Implantable Cardioverter-Defibrillator: Past, Present and Future.** *Paul J. Troup*

MORPHOLOGIC STUDIES

1290 **Collateral Blood Supply to the Myocardium at Risk in Human Myocardial Infarction: A Quantitative Postmortem Assessment.** *Jan J. Piek, Anton E. Becker*

PEDIATRIC CARDIOLOGY

1297 **Aortic Stiffness: A New Doppler Echocardiographic Measure Predictive of Systolic Blood Pressure in Children.** *Richard M. Schieken, William B. Moskowitz, Joann Bodurtha, Michael Mosteller, Lindon Eaves, Walter Nance*

1301 **Cardiac Manifestations in Disorders of Fat and Carnitine Metabolism in Infancy.** *Toshihiro Ino, Geoffrey Sherwood, Lee N. Benson, Gregory J. Wilson, Robert M. Freedom, Richard D. Rowe*

BASIC CONCEPTS IN CARDIOLOGY

1309 **Neutrophils as Potential Participants in Acute Myocardial Ischemia: Relevance to Reperfusion.** *Jawahar L. Mehta, Wilmer W. Nichols, Paulette Mehta*

EXPERIMENTAL STUDIES

1317 **Vasodilator Drug Effects on Internal Mammary Artery and Saphenous Vein Grafts.** *G. Kimble Jett, Joseph M. Arcici, Jr., Charles R. Hatcher, Jr., Peter W. Abel, Robert A. Guyton*

1325 ***Editorial Commment*** **Nitroglycerin, Nitroprusside and Endothelium-Derived Relaxing Factor.** *Gary S. Francis*

1327 **Contraction-Excitation Feedback in the Atria: A Cause of Changes in Refractoriness.** *Shunichi Kaseda, Douglas P. Zipes*

1337 **Cocaine and Cardiovascular Function in Dogs: Effects on Heart and Peripheral Circulation.** *John B. Bedotto, Richard W. Lee, Laryenth D. Lancaster, Marcey Olajos, Steven Goldman*

CASE REPORTS

1343 **Streptokinase-Induced, Antibody-Mediated Platelet Aggregation: A Potential Cause of Clot Propagation in Vivo.** *Douglas E. Vaughan, James M. Kirshenbaum, Joseph Loscalzo*

PAUL DUDLEY WHITE LECTURE

1349 **Balancing the Benefits, Risks and Unknowns of Thrombolytic Therapy in Acute Myocardial Infarction.** *Richard Gorlin*

EDITORIALS

1355 **Exercise Echocardiography: Ready or Not?** *C. Noel Bairey, Alan Rozanski, Daniel S. Berman*

1359 ***Editorial Comment*** **Exercise Echocardiography: Ready, Willing and Able.** *William F. Armstrong*

1362 **Intraoperative Echocardiography: Who Monitors the Flood Once the Flood Gates Are Opened?** *Martin E. Goldman, Bruce P. Mindich, Navin C. Nanda*

SPECIAL REPORTS

1365 **Evaluation of Clinical Competence in Cardiovascular Disease.** *Richard L. Popp, William W. Parmley, John A. Benson, Jr.*

ACC NEWS

1368 **President's Page: Inauguration Address.** *Anthony N. DeMaria*

1370 **1988–1989 Committee Appointments**

INDEXES

1374 **Author Index: Volume 11**

1377 **Subject Index: Volume 11**